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## PET BIRDS AND BIRD-KEEPING.

IX beginning to write a few pages about birds, I am met by this puzzle—among the peacocks and robin-redbreasts, ducks and Java sparrows, tiny waxbills and big dorkings, bullfinches and learned jackdaws, impudent tomtits and destructive crossbills, where am I to begin?

Shall I begin by writing of my naughty robin, who will be let out at breakfast-time, and hopping upon my plate, removes my butter to a remote locality, there to conceal it from human ken? Or shall I give the history of 'Miss Hamburgh,' who, having been a weakly chick, unable so much as to get out of her own shell, was carefully nursed, a little squeaking wretch, for at least a week in flannel, attired afterwards in a brand-new pinafore—a piece of thick white blotting-paper, with a hole for the head cut in it—and fed like a lady upon melted jelly till she picked up her strength! That was coddling truly; and many a remonstrance did I offer to Miss Hamburgh's foster-nurse. The poor little chick, however, is now a grown-up hen, at least eight months old; and each day after laying she comes into the house, tapping authoritatively at the kitchen window, to state what she has done, and to ask for a piece of bread.

Then there is little Dicky Goldfinch, who drags up perseveringly the water from his well, pulling up the chain with his small bill, so hard, and setting so determinedly his little foot upon it till the water is raised, and Master Dicky has drunk to his satisfaction. He looks so important while performing his little task, and always waits to hear the bucket drop again, generally peeping down after it, to see that it is all right; but I own I don't like to allow too much of it, and he is never suffered to be left at all without a proper goblet of water in his cage. Of all birds I know for sociable, pleasant ways, none are superior to these pet goldfinches; their huffs and furious fits of jealousy—almost as bad as those of robins—are so amusing. Of one of my own goldfinches, indeed, I really feel quite a wholesome dread. If his feelings are hurt, he acts so steadily an 'injured' part, that one must perforce be penitent. He sits with his back to me, and refuses hemp-seeds; and when it comes to that, I cannot but feel unhappy. I fear, indeed, that a great many people prey on their friends' kind feeling with no better right than Goldie, and a far less amount of

talent; for what in a bird is clever, hardly assumes the same character when a rational being is the actor of the scene.

The rules for bird-keeping are very few. 'Let well alone,' is perhaps the first and greatest; the virtue of cleanliness, and the advantage of temperance, come second and third in order; and for the fourth rule we may take the enjoyment of as much fresh air and exercise as is practicable.

My own birds are in general a healthy set of creatures. The largest number certainly live in a room or aviary; but I have also many in small cages, of which those which I prefer are made of plain stained deal, and fitted with tin-wire. A narrow sort of skirting-board surrounds the cage, and prevents the seed and sand from being spilled about, which in open cages very often happens. And here I beg to hint, that a good many of those young gentlemen who spend days 'in making chips,' to the disgust of housemaids, might very well turn some of their superfluous energies to doing real neatly finished work, and turning out such cages as would be actual palaces to poor little birds shut up, perhaps, in a cage about six inches square. When people live in the country, half the birds' provisions may be also gathered and stored up by their young masters and mistresses during summer and autumn days. What great sheafs of plantain—all nice, and brown, and ripe—they may then bring in, and spread on the floor to dry! What quantities of rape-seed, growing amongst the wheat, they may stow away in great bags for use! And what stores of thistle-seed, what heaps of groundsel, what basketfuls of chickweed and of watercress they may go out and forage for in the morning.

Morning walks are so pleasant, they hardly want any object; still, they are all the nicer for knowing that some brown and yellow wings will be all flapping and shaking, and a small sweet voice talking as fast as it can go, the instant that Master Dicky sees us coming in. In morning walks, besides, we see the wild birds' ways; hear all their pretty voices, as one by one they join the concert in the grove; see all their lively movements, as they shake and prune their many-coloured dresses, and fly off home again, with perhaps a long straw dangling for half a yard behind them, or with a tuft of moss, or with a feather, for which it often happens there will be a fight. This is about the season when birds' nests are about, and I do hope that people who like to look at them will

try not to frighten the poor mother-birds. Fancy a little creature frightened almost to death, and yet staying close by her nestlings. In a castle in the north, where a friend of mine was staying the summer before last, there was in the library a great stuffed eagle, with its wings spread out—the most dreadful object, as you may well suppose, for mere cocks and hens. There was, also, an obnoxious live turkey-cock, who was always gobbling and strutting, and making such a show of bravery and of his own dignity, as to make every one long to take down his pride a little. So one day, when all the fowls were assembled, the turkey-cock making his usual fuss, and the poor little hens all frightened at such a crusty gentleman, all of a sudden the aforesaid eagle was brought out amongst them, hovering in the midst of them with wings outspread, as if swooping upon his prey! Away went ducks and geese—away went the turkey-cock without an attempt at gobble—away went every one who had wings to fly! Only a poor little helpless group of newly hatched chickens stayed, because they were so frightened that they could not run; and there was their mother, a poor delicate white hen, who alone of all the poultry-yard dared to attack the enemy. With her feathers ruffling and her wings all spread, clucking and scolding, and keeping the chicks behind her, this little fearless creature went on to dare the eagle!

Before we begin to keep birds, we ought to provide a home for them to live in; and as so very much of a bird's health, as well as of its happiness, depends on this being done wisely, and with some knowledge of birds' tastes, I propose to give a few hints upon the subject. One very great object in the construction of any bird-cage should be abundant light and air. I think it is much better to have a mere curtain or cover to hang on one side—as well as being drawn all over for warmth at night—than to have a quantity of opaque wooden walls shutting out the air. Very hot sunshine, or strong drafts, are not frequent, and even from these a curtain might be enough protection, while in the winter-days the little pets would have all the light they could have. A slide of glass run outside the wire is then a first-rate screen.

Cages should thus be made with the top and three sides at least, if not four, of wire; and then in the building-time, when they want a sheltered nest-place, a branch of some bushy evergreen makes a delightful shade, and delights the birds beyond everything, who build their pretty nests in it, and look indeed at home.

The cottage cage, as it is called, on account of its house-like shape, is perhaps the best, as it certainly is the most popular. This cage has a low skirting-board all round, and four sides of wire bending over a little at the top. The seed and water tins do best slipped in as a drawer, of which one end holds water, and the other seed; and instead of the usual plan of wiring over the place where the drawer runs in, so as to keep out the birds, it answers well to have a narrow pent-house of zinc or wood, through the holes in which the birds can eat and drink. I once lost a tomtit in a largish aviary cage; and after we had hunted all about the house, tom was discovered squatting comfortably in the seed-box, and eating away most tranquilly. Poor little tom, I fear, had found some slight difficulty in reaching his seed before, his legs being a good deal shorter than those of the

other birds, who can sometimes manage to stand up to a considerable height.

I have had the pleasure of presiding over the manufacture of a good many bird-cages, and though I must leave the nailing and the gluing, and the sawing and the planing, to the talents of the young gentlemen who therein delight, I may perhaps venture to give them a few architectural hints. For one bullfinch or chaffinch, or a pair of canaries or goldfinches, a cage about eighteen inches square would be quite a palace. For such a cage, it is a good thing to allow from four to six inches of wood-work all round the bottom, but this is not absolutely necessary. The board for the floor being eighteen inches each way, the sides should be made of wire fitted into a frame, or let into the floor and into 'corner-posts.' As long as there are brad-awls, I daresay my hint may be useless; but a very feasible, though not over-workman-like arrangement, is to bore the holes with a red-hot iron wire, or with a steel knitting-pin, and for the door-wires this is at all events a good plan. The wires themselves I would always have closely placed, for young nestlings are so slim, that they are liable to slip out, while larger birds are apt to stick their heads between them. Close wiring is therefore by far the best economy. Cage-makers must be careful not to leave bits of wire sticking up, or little crevices in which the birds' feet can catch. This is one of the greatest miseries belonging to small cages—the space being so small, the birds hang on the wires often, and catching their feet in them, get a great deal hurt. For this reason, the cages that are made of wicker answer better.

For seed-holders, small boxes with holes in the lid do well; and for water, considering the numbers of birds that suffer so terribly through not being able to get at a drinking-glass, which perhaps has been turned a little to one side, I would recommend bird-keepers to use a common red saucer belonging to a flower-pot standing upon the cage-floor. These pans clean thoroughly, and the birds are fond of perching on their edges. I have sometimes, in rather smaller cages, used glasses such as those that are in ink-stands. Their advantage lies in exposing but little opening to admit any dirt or splashing, while the birds can always readily put their heads in.

One day I was quite frightened by the unnatural tone of voice in which one of my birds was speaking. It came to the side of its cage, and called and looked out, and did all it could to attract attention. The poor little thing, it seemed, had been alone some time, and the neck of the water-glass being outside the cage, and not fitting quite exactly, the water had been a very little spilt, and the poor little creature could not get a drop. It could hardly cry, its throat had got so very dry and hoarse; and that was the last time I ever let a bird of mine run the risks of an outside water-glass.

When a cage is made on purpose, plain stained deal is, I think, the very best wood to use; it may be varnished, but must not be painted, any more than the wire. Brass wire should never come near a cage at all.

I like the perches of two different sizes, one square, for instance, and two others rounded; the birds have then a choice where they will perch and roost. Deal perches or smooth soft woods are best, and the birds are always sure to roost on the highest, and to be much aggrieved if there is none very high for them to resort to regularly. Please to observe that the cage-birds I speak of are all home-bred; I can never advocate catching a wild bird, for I do not think that such can ever be really happy without the sense of freedom; while I hope I myself can never feel pleasure in acting jailer!

The way I like to have birds best, is when the wild birds consent to live amongst us tamely, on an understanding of mutual advantages, food and protection on

one side, songs and politeness on the other hand. Next to these I welcome the *home-bred* birds, particularly canaries, foreign sparrows, &c., which could not live out of doors, and which, by care and kindness, we may make so happy. Such bird-keeping as this, I think, is good for all parties; and little indeed suffices to make a bird quite happy: a sunny spot beside a door or window, where the sunlight falls not too hotly, or where a green bough breaks it into a pleasant flickering shade, will be quite enough to draw out songs of happiness, and to make us gay with music, as the birds are with light.

Food for birds is rather an important consideration. For English birds, one fancies it ought not to be hard to cater, and yet I really think that the cage-bred canaries are more easily managed than the native finches, just because their food has always been of necessity confined to the two or three common sorts of bird-seed. One part of hemp to three of canary is what I have always found to suit my birds well. In the country I used also to give them as much as they liked of the rape-seed, which was got from the barn when the wheat was thrashed; and then the birds had also all sorts of green stuff, lettuce and chick-weed, ground-sell and thistle-heads. My London birds patronise the water-cress man greatly, and I begin to suspect that they really know his cry! The green food answers well in keeping off any bad effects of hemp-seed in the small proportion in which I let them have it. All birds almost are immensely fond of poppy-seeds, and some delight in the seed of flax or linseed; but I think, on the whole, *for birds reared in cages*, canary-seed and green food, with a little hemp, are all that they really want.

Goldfinches, however, are charmed with a thistle-head, when the seeds are nice and downy; and all the birds I know are interested in hearing of a good crop of plantain.

It is most generally declared that the finch tribe declines insects; I only know that the best remedy for green fly on plants is the company of a goldfinch, for half an hour, I think, would effect a perfect cure. When the birds are well and strong, they do well, however, without any food of this kind; but when they have young nestlings to rear in a cage, I am quite convinced that insect food is essential. The first accomplishment, generally, that a pet-bird acquires, is some peculiar way of asking for its favourite food. A cunning flight of canaries of mine got to know very well the person who gave them chick-weed, and no sooner did she appear in the room each morning, than the whole yellow tribe came down and sat in a line, insinuatingly bowing and calling, and making a world of fuss.

Another bird, I have, knows his hemp-seed box, and as I keep the said box in my china pen-tray, whenever I take up any writing implement, Fiddie always hopes that I am going to open the little yellow treasure-house, which, in his eyes, is more valued than gold; as for that bird's ears, if I say in the most unaltered and conversational voice: 'Just give Fiddie a hemp-seed,' down comes Master Fidd, and there he stands all ready, shaking his wings, and dancing with vehement impatience.

Fiddie's great delight is in holding about half a cracknel up upon his perch, nibbling away at it as hard as he can nibble. All my birds, however, are passionately fond of cracknels; it is a taste that sometimes leads them into real temptations. One day last winter, I had several of these very tempting morsels lying about beside me and upon my dress, and a whole host of birds flying about the room. Presently two canaries pounced upon one large piece—thereupon a fight ensued. One combatant, I regret to say, acquired what the birds, I believe, reckon as a black eye. After the war, however, had seen many changes, and gone through many vicissitudes,

the warring parties becoming very tired, the one in possession put down the bone of contention, to take a little breath, and to eat a mouthful. Alas for the spoils of that hard-won field! An audacious goldfinch—about three degrees the smallest of my company—came quietly hopping up, took up the biscuit in her own long bill, and when Dickie meekly hazarded a word of remonstrance, she advanced the said bill so threateningly with the stolen biscuit in it, that Dickie retired terrified, and little goldpink enjoyed her stolen goods.

The foreign birds, such as waxbills, Java sparrows, and those most amusing pets, called commonly 'cut-throat sparrows' (from the bright red line which surrounds the cock-bird's throat), live very much on millet, though they seldom object to a little canary-seed, and the Java sparrows sometimes like a grain or two of hemp. All the sparrow tribe seem greatly to delight in green food, and the uproar is very great if that dainty is brought in sight, and not at once bestowed on the little people, who have not the bump of patience. Crocuses, too, are things which birds cannot resist, and which are probably very good for them. But the little waxbills decline everything but plain millet, and always maintain, that for their part a bath is the only luxury.

Very great mistakes have often prevailed as to the food for parrots. They are not birds of which I have much personal experience; but those I know, which seem to be really thriving, are fed chiefly on bread soaked in milk, and on fruit and nuts. Animal food is certainly unnatural to these birds in their wild state, and I do not see myself why even in colder countries parrots should be supposed to need it more than smaller birds. It is certain that without it they are far more healthy, and avoid much more generally the uncomfortable irritation which leads them to pull out their feathers, and thus to spoil their plumage. An inconceivable mistake is made, in the fancy that parrots do not want water. How the idea originated, it would be hard to say; perhaps it is simply in the idea of their bread being so wet as to serve for food and drink, and in their being natives of hot countries. In their own land, however, flocks of parrots are sure signs of water being near; the woods in the early morning are all astir with them as they flock to the water-side, and bathe their painted plumage before retiring to the shade to chatter and plume themselves during the mid-day heat. I believe that they generally visit their usual watering-place several times a day; and in confinement, it is quite certain that nothing is like a bath for keeping them in good health.

In teaching birds to talk, I believe a good deal depends on speaking to them in tones of *sharp* articulation; complex, indistinct words, of course, they cannot unravel, and thus it is, no doubt, that they so much oftener learn to imitate some call or short sentence spoken personally to themselves, than any other words that they hear said often. A most amusing story is told (I think by Mr Simeon) of a talking parrot. The bird, by some forgetfulness, had been left in the room one day while the family were at prayers; Poll behaved very well till the servants and people present joined in the 'amen' at the close of one of the prayers, on which she broke out immediately with her 'Cheer, boys, cheer!' The butler proceeded at once to remove the culprit; but by the time that the dining-room door was reached, remorse had overtaken her, and turning to the company, she exclaimed—'we will hope in penitence: 'Sorry I spoke!' We are not informed whether the fault was reckoned to be quite repaired, but the effect on the hearers is said to have been remarkable.

It is said that most birds may be taught to speak; Bechstein mentions two sparrows belonging to a priest in Paris, who used, while fighting over their seed, gravely to admonish each other: 'Tu ne voleras pas!'

But I suspect that often birds catch more the time and tune of the words than the articulation; like my own goldfinch, who (for private reasons that I will not betray) got called after a noted thief by the name of 'Fiddler Dick;' and far from being humbled by it, this little gentleman is always publicly repeating his own name.

## HOME FROM THE COLONIES.

MR FRITH'S 'RAILWAY STATION.'

'WAITER,' said I, 'since I must not dine before seven, what is to be done in the meantime?'

The waiter led the way into the entrance-hall, and fixing his eyes upon an enormous board, decorated with announcement bills, checked them off upon his fingers, with a running accompaniment of comment—thus:

'Mr and Mrs German Reed with Mr John Parry at the Gallery—a musical entertainment: Mr Charles Mathews, his personal experiences—funny: Exeter Hall, with an interesting report from a Caribbean missionary, partly eaten—we have a platform-ticket, sir, if you are so disposed. Not a serious gentleman? Very good, sir. The Flying Man, then, at 2.30 at the Alhambra—he must drop some day, and my advice is therefore "Go early;" David Copperfield at St James's Hall—with Mr Dickens himself, and a very pretty reader: Mr Frith's *Railway Station*—'

'Stop!' cried I; 'I will go and see that first.'

'Fine picture, sir—very fine picture, and they tell me a matter of nine thousand pounds bid for it.'

The next moment I found myself in a Hansom—something like the old calash, my young friends, but with only a single horse in it, and the addition of a man at the top of your head—and was conveyed, as it were, in a locomotive air-bath, and with astounding rapidity, to my destination. I joined the stream of fashionable people that was flowing in at the door, and it carried me into the exhibition. I say 'carried' advisedly, for I was buoyed up by a couple of ladies, who, singularly enough, had retained the ancient fashion of wearing hoops, which was almost extinct even in my early days. I know they were hoops, because they knocked against my shins, and tipped up upon one side on the very least provocation, whereby, too, I perceived (so true it is that knowledge begets knowledge) that females wear in England articles which in Australia are confined to the male sex, but elegantly fringed with lace a little above the ankles.

The great picture was not approached with the facility with which one even of a favourite painter—such as Wilkie—would have been in my time; for it was not only great, but it was Sensation. The American Republic, to which this country is already so largely indebted for the invention of goloshes, sherry-cobbler, and shilling-clocks (and to which we ourselves in America owe the introduction of that handy and ingenious instrument, the bowie-knife), has recently imported Sensation into Great Britain. No matter whether the term be applied to a dance or a divine, a melodrama or a system of medicine, it has the wonderful effect of drawing multitudes to hear, to see, to taste, and to admire. If I could only have made Morumbidgee Sensation, we should have had no want of hands in the hearing-season. Mr Frith's picture is protected by a rail, in front of which the ardent spectators move slowly in single file, while a gentleman connected with the exhibition murmurs softly: 'Pass on, ladies and gentlemen, if you please; you may go by as often as you wish, but you must not interfere with the general convenience by standing still: pass on, pass on.' Moreover, there is a gigantic scaffold hung with purple cloth, whereupon giddy or timid visitors may stand and stare. So long as she does not get a seat,

the most resolute stickler for her money's worth may be depended upon to go away after an hour or two; so all day long the show-room fills and fills, like a basin with a hole in it, and the 'enterprising purchaser,' let us hope, begins to reap the first-fruits of his venture.

In my time, aristocratic connoisseurs were almost the sole patrons of the painter, and they patronised the dead more than the living. The great manufacturers and merchants had only just begun to buy; artist and dealer were alike unaware of the existence of their true patron, the Public, who pays three times over for what pleases it; once for the exhibition of the picture, as in the present instance; once for proofs before letters, for engravings and for prints; and finally (in the persons of Municipalities or Associations), for the picture itself, which thus delights ten thousand instead of a hundred eyes. Let no man grudge Mr Frith his great success. He is the Hogarth of his time, and will illustrate for future generations the manners of our day. A period may arrive (though perhaps only coincident with the metaphorical New Zealander) when Margate Sands may lose their attractions for Londoners, or even when the Derby Day itself may cease to agitate the British mind; yet our descendants will be at no loss for a most truthful representation of both those scenes. So, if railways should ever be superseded by balloons, or other methods of locomotion, the present picture will remain an accurate memorial of them. The *Railway Station* is indeed an epitome of life as witnessed from a departure-platform. When I left England, the features of such a work as this would have met with no general recognition. The stage-coach was still the national locomotive. The coachmen who 'tooled' the 'teams' upon the various highways out of London, were personally known to vast numbers of people. Noblemen and gentlemen styled them Bill and Jack, and honoured the box-seat with their presence, from which they gave well-weighed verdicts of admiration upon the 'spanking tits' beneath them. Some of the old 'Corinthians' still survived with a hole in one of their front teeth, which had been bored in the days of their youth, for the express purpose of enabling them to whistle shrilly to their steeds, as well as to expectorate with the accuracy and precision which distinguished the professional gentlemen of the whip. Those days are dead, and 'buried' all, under the down-trodden pall of the leaves of many years,\* but while they lasted, it seemed that they could never be forgotten. If Mr Frith had lived in them, they would not have lacked all memento as they now do. How admirably would he have secured for us for ever that splendid national scene, the Departure of the Mail from St Martin's-le-Grand—a spectacle that will never more be seen of men!

With the drivers of a railway train, it is impossible that the general public (with the exception of such gentlemen of fashion as Mr Wyndham, with whom engine-driving is a relaxation) can have much personal acquaintance; but with the Railway Guards it is different. I heard at least a score of people remark upon the fidelity with which Mr Frith had reproduced the features of the Great Western officials. From what rank of life, I wonder, do those courteous and intelligent persons come? They have not the somewhat broad joviality of the old scarlet-coated mail-guards, who, like their brethren of the box, were a little spoiled by the flatteries of the public, but they are always good-natured and attentive; while the porters present a remarkable contrast\* in their gratuitous civility to the harpies who were wont to take charge of the luggage of the unhappy traveller by

\* When there are only enough of them, for 'one is not a bird, ma'am, that one can be in two places at once.'



mail-coach. Oh, shades of 'Boots' extortionate (from whom, as I believe, must have arisen the word Booty, spoil of the traveller), into what limbo have you fled, now that 'every charge for attendance is included in the hotel bill!' No more, at parting, shall you stand, with cap in hand—pretending to wipe your brow bedewed with labour on account of that little carpet-bag of ours—and bid us, with sycophantic smile, to 'remember' you! We deemed it, in those days, a most superfluous exhortation, for we had no hope that the day would come when it would be possible to forget you; but now, behold the whirligig of Time has brought about our revenge!

In yon Detective, too, with his hand upon the shoulder of the Forger, who, standing upon the very threshold of the carriage, imagines, poor wretch, that his safety is already half secured, I recognise no feature of the Past. The race of the Bow Street Runner has long been run. The iron hand of Justice is of far surer gripe than ever, but it is softly gloved, and its movements are not so visible. The criminal may fly from it upon the very wings of the wind, but the lightning flash will even then overtake and precede him, disclosing his secret to men who wait for him a hundred miles away. Nay, upon the cushioned seat on which he reclines there may be one whom he takes but for a chance passenger, but who is in reality his Nemesis, the avenger of wrong, only awaiting the signal from head-quarters to produce the handcuffs in the name of the Queen.

Close beside this awful group there is the marriage-party, and the farewell parting of the bride from her weeping sisters; when 'light regrets that come, make April of her tender eyes; and doubtful joys the father move, and tears are on the mother's face, as parting with a long embrace, she enters other realms of love.' There are now for 'happy pairs' no chaises and four, and no old shoe is thrown for luck after their retreating wheels; no postboys now are to be bribed to increased speed upon the road to Gretna, for Gretna Green itself is a railway station, and rash young people, with only three hundred a year and love between them, may be wedded to equal advantage in Hanover Square.

Here are Recruits about to join their regiment, and sailors their ships, as they did in my own day, for wars are unhappily not abolished yet; but there is also another class of possible fighting-men which is quite new to me. One end of the train is in possession of a number of Volunteers bound for a day's rifle-practice somewhere down the line. Whatever change the old country suffers, therefore, it is not likely, I thank Heaven, that she will ever change hands. She trusts in Providence, but also keeps her powder dry; or rather, like a mother of many children, whom it becomes, in these days of crinoline and inflammable material, to be extraordinarily prudent, she places fire-guards upon every grate, in preference to subscribing to a burial society, or putting faith in a hearth-rug and presence of mind to extinguish flames. The news-boy flits ubiquitous from group to group with intelligence for one penny, brought that very morning from the uttermost parts of Europe, which in my day took one fortnight to arrive, and another to be contradicted and set right again, by special messengers. His news may be important, and detail the fall of a dynasty, or the enfranchisement of a nation, but it has no interest for the widow yonder, parting with her son, with the ribbons fluttering in his cap, and the recruiting-sergeant at his elbow; nor for the sailor's wife, who is doomed for years to be separated from 'dear Jack,' and to dream in her lonely bed of storms at sea; nor even for the boy there, who is off to school for the first time, and parts from his mother with a pang, the hurt of which is only known to him and to her.

These partings, which sometimes break, but never weaken the strands of the human heart, are sad to

witness, and terrible to bear. But there is one thing worse, believe me—to return home with none to welcome us. The very forger, you see, has his meek, worn wife to comfort him, and to make excuses for him that will be made by no other being in this world. But for me—if I were to add a new Sensation to your picture, Mr Frith, by dropping down a dead man in this room, there is not one in all my native land to say, 'I knew him.' This crowded London is a frightful solitude to an Englishman that has no friend. The Foreigner—such as he who is wrangling with the cabman on yonder canvas—expects to find in it a world alien, if not absolutely hostile, to be gazed at, rather than to be mixed with; but when the accents of every passer-by are familiar, and their very features speak something to us of home, it is hard, indeed, to feel that neither face nor voice has any recognition in them. The occupation of cattle-farming in Morumbidgee does not predispose the human mind for morbid sentiment; but as I walked back (I had almost written 'home') through the teeming streets, I felt this bitterly. My dining-table was set out in the coffee-room with crystal, and silver, and damask—but it sadly wanted a second chair. The dinner was excellent, but I have often enjoyed far more a pot of tea and a dish of damper in company with my stockman in the bush. The *Times* is a great organ, but not so companionable as that of the human voice. There were advertisements in it of everything that can be procured for money, but, unhappily, they could not tell me where to find a friend. I could purchase an aunt—Aunt Sally—so low as 14s. 6d., it is true, but that relative was to throw sticks at, and not to love. I could procure for my constant companion his Royal Highness Albert Edward, Prince of Wales, photographed from life on a rich brown silk pocket-handkerchief, for 4s. 6d., but royalty, it is the opinion of a good colonist, is not a thing to be sneezed at. The United Society of Cooks invited my patronage, but that was not the sort of society for which I pined. The Private Inquiry Office was open, I read, under *ci-devant* Inspector Field, but, with all his cunning, he could never discover the one thing above all I wanted: one must find out a friend for one's self.

'A lady of high title and first position' was indeed, I saw, 'willing to receive at her husband's west-end mansion a lady wishing to be properly presented, or aspiring to advantages derivable from an introduction to exclusive society,' for the (to myself) but trifling consideration of £5000. But it was more than doubtful whether she would receive a gentleman upon the same terms. 'Name and all circumstances' were to be stated too; so Mr John Stokes would have to reveal his descent from the Trevors. This last was an insurmountable obstacle, although, in other respects, the investment was eligible enough.

*'To Foreigners, Returned Colonists, and Country Gentlemen unacquainted with London.'*

Returned colonists sounds, to a sensitive ear, just a little too much like returned convicts, but I dare say no offence was intended.

*'Two gentlemen, whose time is entirely unoccupied, offer their services as ciceroni to gentlemen of good means, desirous of seeing town-life. Apply to X or Y, Half Moon Street, Piccadilly.'*

'Now this,' thought I, 'is the very advertisement for me. Here is not only one companion, but a couple, secured by a single transaction. Gentlemen? To be sure, there might have been a little doubt about that, but for the immediately succeeding sentence, 'whose time is entirely unoccupied,' which at once puts the matter above suspicion. In Melbourne, at all events, the very definition of a gentleman is comprehended in that statement. I like, too, the honesty of the words 'to gentlemen of good means;' the advertisers (who have seen it already) evidently desire to see town-life in a comfortable fashion, and

delicately suggest that Moselle, at the very least, must be always on the dinner-table.

'Waiter,' said I, confidentially—for it is impossible to set down in words the tacit but paternal guardianship which that head-waiter had assumed over me by this time—'now, what do you think, of this advertisement?'

I watched my mentor while he read it, and his appearance gave me a higher opinion of him even than that I already entertained. The elevation of his eyebrows and the compression of his lips went on to that extent that I looked for the disappearance of these intelligent features altogether. The result of his mental labours was brief, decisive, and oracular. He shut his eye, he shook his head, and he ejaculated 'gammon;' then, after a pause, he added with mysterious emphasis: 'And if it ain't Gammon, now, you mark my words, sir, it's Garrotting.'

I thanked him gratefully, and putting a cigar in my mouth, strolled off across the park to Half Moon Street, Piccadilly.

#### LAST HOMES OF THE LONDONERS.

THIRTY years ago, the last home of even a wealthy Londoner was a crowded vault beneath some church hemmed in by houses; while that of the poorer sort could hardly be called a resting-place, since, sooner or later, their bones had to make way for the more recently deceased, and were thrown to left and right by the grave-digger. Higher and higher grew the half-human church-yard, shutting out window after window of the many-peopled houses round from outlook and air, and substituting for the one a wall of rank rich grass, whose greenness speaks not of life and spring-time, but of death and corruption, and for the other, the pestilence that walketh in the noonday and the night alike. Even in the vaults of so-called fashionable churches, not only were no pains taken to render death less abhorrent, but it was positively made more hideous by circumstance. The tawdry pomp of crape and baton, of pawing horses and nodding plumes, and all the hired panoply of sorrow, went no further than the grave's mouth.

I remember being present at a certain funeral in those days—a 'first-class interment,' it was called, in the jargon of the undertaker—where all the outward respect that could be provided for the sad occasion had been purchased without regard to expense. Gentlemen in dusky pairs, and overcome with costly emotion, preceded the long procession, each furnished with what looked like a folded telescope, as though they would have followed with their bodily eyes the supposed direction of the late flight of the fashionable spirit. Then a dusky gentleman alone, bearing a board upon his head with ostrich feathers on it, exactly as the Italian image-boys carry their frail wares. Then another group of telescope-bearers. Then a sort of (muffled) drum-major in the deepest mourning and despondency. After him the hearse itself, with a gentleman more than dusky—for he was a genuine black man—sitting beside the driver. The appearance of this person was calculated to excite sympathy even from the most callous spectator. He was bowed no less with years than with grief, and his short hair—which still retained the curl peculiar to his race—was as white as wool.

I inquired of a relative of the deceased person who this individual was, for I did not remember ever to have seen him in that gentleman's household.

'I dare say not,' returned he; 'for the fact is, I never set eyes on him myself before to-day. Mr Mole, however, assured us that it would be the correct thing to engage him. "An ancient and valued retainer of the family," said he, "is indispensable on such occasions as these, and a black man for this purpose is invaluable." He is set down in the estimate at £3, 16s., exclusive of the cambric handkerchief—which, to do him justice, he applies to his eyes as continuously as is consistent with exhibiting his complexion to the general public.'

After the hearse came, of course, the mourning coaches, and a long train of private carriages, full, perhaps, of unmitigated grief—for there was nothing else in them. At the mouth of the dismal-looking vault we were all arranged in a certain order, while Mr Mole distributed among us little packets of lavender-coloured paper, which I took at first to contain sugar-plums, but which in reality held gravel, refined to the delicate consistency of cayenne-pepper. 'At the words "ashes to ashes, dust to dust,"' whispered he to each of us, with a solemn smirk, 'you will be so kind as to sprinkle the contents upon the coffin.'

And yet, I remember, when the grim pantomime was over, and the plumes were 'packed away, and the hired mourners (including the ancient retainer) consoling themselves for their bereavement in the neighbouring public-house, the coffin of the deceased person's late wife, who had been buried but a few years back with the like magnificence, and next to which he had wished his own to be laid, could nowhere be found. The relative before alluded to, and myself, had remained behind to see that this request was carried out, and but for us it would certainly have been disregarded. We descended into the vault, and only after several hours discovered what we sought. All the coffins, without the least regard to the relationship of their inmates, were bound up in bundles of half-a-dozen each, and fastened together by means of huge black chains. How wretched was such a resting-place, contrasted with a grave that 'takes the sunshine and the rains,' such as the very humblest can command in a village churchyard!

It is true that there are some few quiet and suitable spots for sepulture even in London—some very 'snug lying' beneath the shade of deep-hidden city churches, and in cloisters, rarely or never trodden by the foot of a chance passenger. In the precincts of the Charter House, and about Westminster Abbey, there are several such places sunk in shadow and silence, to which neither the noise nor the beams of highest noon can penetrate. In an inner court of the latter locality, I came but lately upon a half-obliterated memorial-stone, which cannot surely have met many eyes. The tablet states of the deceased that 'through the spotted vail of the small-pox he presented an unspotted soul to his Maker.'

In some old London churchyards, too, there are cypresses, and some, such as that in Camden Town, wherein Charles Dibdin, the song-writer, is buried, are planted, I have heard, with flowers.

As a general rule, however, the Last Homes of Londoners of all ranks have been, until lately, a disgrace to our civilisation, and calculated in sensitive minds to add another terror to death. All this is now happily changed. It is almost impossible to take a long walk in any direction out of London without coming upon one or other of its beautiful cemeteries. These vary in size from about fifty to ten acres, but are all laid out in a similar manner. Each is divided into two unequal parts, the smaller section being unconsecrated, and devoted to the reception of those not buried according to the rites of the Established

Church. Such a distinction in such a place seems pitiable enough; but it is dependent upon the nature of the funeral-service only, and is not affected by the form of creed held by the deceased persons in life. In one of the Cemeteries, there is a family vault whereupon is inscribed the important fact, that one part of it is consecrated, and the other not; but the flowers seem to grow equally well on both sides.

Flowers and shrubs are to be found in more or less profusion in all cemeteries, but few trees, since the gradual extension of their roots destroys the graves, and rain-droppings from their branches damage the headstones. In all, too, there is one broad walk or carriage-drive, by the side of which are the most striking monuments, and in some, it is said, that ground cannot be purchased in that particular situation unless it is guaranteed that not less than two hundred pounds will be expended in decoration. There are many monuments that have cost five times this sum, and which are certainly very imposing, but the effect, so far as pathos is concerned, is generally in inverse ratio to the money expended. Enormous blocks of granite or marble, with life-size figures of Faith, for instance, upon them, do not present that idea of tender sorrow, which a few sea-shells—his playthings during life, perhaps—scattered over a child's grave, convey. In Cemeteries in poor neighbourhoods, these shells, and plaster-of-Paris Infant Samuels, form the most common decorations.

What has been observed concerning the relative size of monument is equally true of length of epitaph. These are almost always affecting in proportion to their brevity, and this is especially true in the case of little children, where many words must needs be out of place. The surname of these little lost ones is sometimes not even mentioned. 'Walter' is inserted on one headstone, accompanied only by the date; on another, 'My Poor Child'; and on another, a most touching (although slightly misquoted) text, 'It is well with the child. It is well.' [2 Kings, iv. 26.]

Very many foreigners find their last homes in London cemeteries, far away from the places where their fathers lie within the shadow of the Swiss mountains, or by the rapid Rhine, or beneath the Italian skies, or under the palm-trees of the still more distant East. 'Wola Twoja,' 'Chinniah,' and 'Mahalath,' although they have no other epitaph, yet surely speak not without pathetic eloquence. Most of these alien graves exhibit peculiar signs of care, as though their occupants, though dead, were not friendless; but the *immortelles* which generally hang about them are not adapted for this damp climate, and when once soaked with rain, resemble wreaths of rusty iron. There is no reference to their own land, or repining at the fate which cast their lot in life so far from home; but there is one unhappy Frenchman in Kensal Green, upon whose tomb his surviving friends and compatriots (I suppose) have inscribed this libel against our Metropolitan climate: 'Suffocated in a London fog!' Humour and tenderness are twin sisters, and it is impossible, even while walking amid these groves of Death, to refrain from an occasional smile at what we read. Most of the epitaphs are texts, and a few are quotations from well-known religious poems,\* but the majority are either amateur compositions by surviving friends, or stock verses furnished by the stone-cutter. Conceive the compliment to the religious feelings of the departed, as well as to the skill of his medical attendants, conveyed in the following distich:

Pain was my portion;  
Physic was my food;  
Groans were my devotion;  
Drugs did me no good.

This is plain-speaking; but the interpretation of the following lines (in Kensal Green) is hidden from the present writer altogether:

Grandchild of Rowland's apostolic man,  
Seraphic messenger of God in Wales,  
And eke in youth her Christian course began,  
Till death endured— Now it well avail.

The fulsome adulation of many of those compositions is very sad, and would be extravagant, even if angels, and not men, were the subjects of eulogy. The well-known child's question: 'But where are all the naughty people buried, papa?' cannot but recur to us as we read them; and when I came, the other day, in a certain place, upon a Captain Somebody, 'Unattached,' I protest it was quite refreshing, since every one else but he, it seemed, had left a host of inconsolable friends.

One or two of the original inscriptions are, on the other hand, at least applicable to the circumstances of the deceased person. In the unconsecrated portion of one cemetery may be read the following lines, an example considerably above the average of its class:

Full many a flower that blossomed in his path  
He stooped to gather, and the fruit he plucked,  
That hung from many a tempting bough, all but  
The Rose of Sharon and the Tree of Life.  
This fung its fragrance to the gale, and spread  
Its blushing beauties. That its healing leaves  
And fruit immortal. All in vain!  
He neither tasted nor admired, and found  
All that he chose and trusted fair, but false;  
The flowers no sooner gathered than they faded;  
The fruits enchanting, dust and bitterness;  
And all the world a wilderness of care.  
Wearied, dispirited, and near the close  
Of an eventful course, he sought the plant  
That long his heedless haste overlooked, and proved  
Its sovereign virtues, underneath its shade,  
Outstretched, drew from his wounded feet the thorns,  
Shed the last tear, breathed the last sigh, and here  
This loved one rests in more than trembling hope.

Of quotations of any length, perhaps the most appropriate is that which follows, copied from a tombstone in the consecrated part of the same cemetery, and inscribed, as will be seen, to the memory of one who perished young:

'Tis ever thus, 'tis ever thus with all that's best below—  
The dearest, noblest, loveliest, are always first to go.  
The bird that sings the sweetest, the pine that crowns  
the rock,  
The glory of the garden, the flower of the flock.  
'Tis ever thus, 'tis ever thus with creatures heavenly  
fair;  
Too finely framed to bide the storms more earthly  
creatures bear,  
A little while they dwell with us, blest ministers of  
love,  
Then spread the wings we had not seen,  
And seek their home above.

The most favourite sepulchral style among the aristocracy appears to be the 'Egyptian,' and vast piles of Aberdeen granite are often erected after that pattern, with weird, and, to say truth, very pagan-looking figures guarding what appears to be the portal. The sphynx herself, however, would be puzzled to indicate whereabouts the entrance really is. Sometimes a mighty slab has to be removed in front of the seeming gate, and sometimes the back of the gigantic mass, being assailed by levers, revolves slowly upon a central pivot, and gives admission to the ancestral tomb. In deference to this singular taste, I suppose, there is erected in the Highgate Cemetery a circular catacomb of this fashion, embracing a

\* Gray's *Elegy* is laid under contribution for this purpose—as far as my observation has gone—in one single instance only.

considerable space, from the centre of which—and unapproachable except by a ladder—there springs an enormous yew. The effect is sombre and stately, but evokes not the slightest throb of human sympathy. Those mighty, nameless doors, surmounted with coronets and coats of arms, are powerless to move the heart, in comparison with a grass-green grave set round with violets and primroses. It would, however, be a deception to let it be supposed that in all cases where flowers or fresh grass are found growing about a tomb, surviving friends must needs have set them there, for a certain annual stipend to the Burial Company will insure the payment of these pious rites at their due season.

The emblematical statuary is generally of a very stereotyped character, nor do the middle classes therein exhibit themselves one whit less artificial than their betters. Veiled women weeping over tea-urns—who might be ladies suffering from sea-sickness for all that the artist indicates to the contrary; tea-urns covered decently with a stone mantle; tea-urns in all their native deformity; broken lilies, broken columns, broken rosettes; weeping willows, and especially *frosted weeping willows*, without the least reference to the season in which the deceased person may have perished; doves bearing between their beaks huge open volumes, with texts inscribed upon their marble leaves—all these are to be found in myriads in all the cemeteries, and so alike to one another, that each class might have been turned out by the same machine. There are not a few monuments, however, whose effect is really good, and many less ambitious ones which are exquisitely beautiful and touching.

Among the former, the tombs of deceased hippodrome proprietors are very remarkable. That of the late Mr Cooke, at Kensal Green, is surmounted by a well-executed horse; and opposite to this, singularly enough, is the sumptuous mausoleum of Mr Ducrow of Astley's. A tomb, also ornamented by a horse, forms a striking feature in Highgate Cemetery. It is apparently dedicated to some lady famous for her equestrian skill, since the epitaph commences—

She's gone, whose nerve could curb the swiftest steed.

At Highgate, too, there is a massive memorial to Mr Wombwell, 'menagerist,' in the form of a magnificent lion. A more gigantic animal of the same species adorns the monument to Jackson, the famous fencing-master and prize-fighter, in the West London Cemetery, whose epitaph is also singularly good. An architect, interred in the last-named spot, lies, appropriately enough, beneath a huge block of rough granite; and on the tomb of a French engraver, in the same place, his last and unfinished work is preserved in glass, and skilfully set into the headstone. Medallions taken from the life are not uncommon upon the graves of wealthy persons; and in Kensal Green, there is a most exquisite chalk-drawing of a little child, taken a few hours after death, and inserted with frame and glass within the stone.

Of all the Last Homes of the Londoners, Kensal Green is perhaps the most interesting, although by no means so favoured in position as some others. It is the oldest and the most extensive, and therefore the most repaying to the curiosity-hunter in its collection of Celebrities of all kinds. Within its fifty-three acres lie Lord and Leveller, Priest and Actor, Poet and Clown. His Royal Highness the Duke of Sussex and half the late British peerage rest within a few yards of Feargus O'Connor. Thomas Barnes, the editor of the *Times*, sleeps his last sleep by 'Barnard Gregory, the Satirist.' Sydney Smith is on the same level with Richard Flexmore. Charles Kemble shares the same stage with Madame Vestris. Close to the beautiful monument of Thomas Hood stands the tomb of John Murray, for Death will make even author and publisher lie together in peace. Nay, the very doctors—so impatient of innovation—whose skill

has been useless to avert Death's dart from themselves, here lie undisturbed and quiet in the same plot of earth with St John Long, the 'counter-irritation' practitioner, and James Morison, the Hygeist.

### ANTHONY TROLLOPE ON THE UNITED STATES.

A WORK in two goodly octavoos, on the United States, from so vivacious a writer as Anthony Trollope, and embodying observations made since the commencement of the civil war, is sure to be received with interest by the public. He, indeed, spent no more than six months in the country—beginning in August 1861—and he must have written his book with more haste than a regard to accuracy, deliberate judgment, and consistency would warrant; nevertheless, the freshness, not to speak of the inherent perspicacity, of the observations, is a great matter in such a case, and we therefore entertain little doubt that the book will be well received.

Mr Trollope, though landing at Boston, may be said to have commenced his travels with a run along the length of Canada. He remarks the grandeur of the Great Trunk Railway and its tubular bridge, the populousness and the activity of Montreal, the elegant law-courts at Toronto (far excelling any which exist in the home-country), the not less elegant buildings of the University in that city, and many other obvious but interesting points. He also finds occasion to speak of the peasantry or working-classes of Canada, as shewing an assimilation to those of the States in the assumption of a bold and somewhat insolent tone of independence. He afterwards discusses the likelihood that, ere long, Canada will desire for herself and the neighbouring British provinces, an entire independence of England; and he encourages the idea—one which occurred to ourselves on a visit to the province—that as a constitutional monarchy under an English prince, and under a friendly treaty with England, it would probably enjoy a long career of prosperity and happiness.

Stepping out of Canada at its west point, Mr Trollope is duly impressed by those wonderful cities, Detroit, Chicago, Milwaukee, &c., which have in a few years sprung up amidst the great wheat-producing plains of the western 'states.' These towns are all laid out, from the first, on an understanding that they are to be enormous. You see great gaps in them, but also huge blocks of building more or less filled up, the results, generally, of speculative enterprise. 'Monroe P. Jones, the speculator, is very probably ruined; but he is none the worse. It hardly makes him unhappy. . . . He would sooner have built Jones's tenth block, with a prospect of completing a twentieth, than settle down at rest for life as the owner of a Chatsworth or a Woburn.'

While admiring the activity of the West, and admitting that the Irish immigrant there gets meat seven times a week, he remarks, what has been perhaps too much overlooked, that the life of the working-man is one of very hard work. 'There is, I think, no taskmaster over free labour so exacting as an American. . . . And, moreover, which astonished me, I have seen men driven and hurried—as it were forced forward—at their work, in a manner which, to an English workman, would be intolerable.' They are often cheated of their wages, too, there being no such rule of a weekly ready-money settlement, as prevails amongst us.

Mr Trollope found the whole of the West in a ferment of enthusiasm for the vigorous prosecution of the war. Iowa, with 674,000 souls, sent out eighteen regiments of a thousand men each. Illinois, with a population of 1,700,000, was contributing 60,000 troops. Indiana, out of 1,300,000, sent thirty-six regiments. Our traveller gives unhesitating



respect to this energy, regarding the object as well worth the effort, and viewing a struggle for the Union as natural and unavoidable—as what we ourselves would have entered upon in the same spirit in the same circumstances—even while he professes to believe that it can never succeed in the manner or with the issue contemplated. He also defends the arbitrary interferences with personal freedom: when the opinion of a people at a great crisis is all but unanimous, dissent cannot be tolerated. It has never anywhere been otherwise. He does not even see any great danger in their rapidly growing national debt. It is, in his eyes, a ballast which, if rightly carried, will not bring the state-vessel to grief. One thing he praises highly—the readiness of the Americans to own their defeats, followed up, as it was, by a hearty resolution to prepare for better results by large reinforcements and good drilling. If he had written a few weeks later than he did, he might have well added, that the American troops had redeemed, by their gallantry and good conduct in 1862, the wretched misadventures of 1861.

The bitter feeling of America against England for her conduct on this occasion is fully admitted by Mr Trollope. The head and front of the offence was Lord Russell's proclamation of neutrality between the belligerent parties. The free expression of English opinion against the expediency of the contest, and the hopes of its satisfactory end, has confirmed the angry sentiment then engendered. Mr Trollope combats the justice of the American feeling, and yet believes that, in the same relative circumstances, we should have felt in like manner. He has a comic apologue to represent the case: 'Mr and Mrs Jones are the dearly beloved friends of my family. . . . Of a sudden, Jones and his wife have fallen out, and there is for a while in Jones's Hall a cat-and-dog life that may end—in one hardly dare to surmise what calamity. Mrs Jones begs that I will interfere with her husband, and Jones entreates the good offices of my wife in moderating the hot temper of his own. But we know better than that. If we interfere, the chances are that my dear friends may make it up and turn upon us. I grieve beyond measure, in a general way, at the temporary break-up of the Jones's Hall happiness. I express general wishes that it may be temporary. But as for saying which is right or which is wrong—as to expressing special sympathy on either side in such a quarrel—it is out of the question. "My dear Jones, you must excuse me. Any news in the city to-day? Sugars have fallen—how are teas?" Of course, Jones thinks me a brute; but what can I do?' This is as much as to say, that the anger of the Americans with the English is natural, however unreasonable. There is, however, something more than this in the case, for the perfectly similar conduct of France has been scarcely a subject of remark in America. It is evident that there is a peculiar susceptibility in America regarding the conduct of England. It may be queried if this greater susceptibility argues anything like a habitually more friendly feeling towards England.

'Their complaint,' says Mr Trollope in another place, 'is that they have received no sympathy from England.' He adds: 'It seems to me that a great nation should not require an expression of sympathy during its struggle. Sympathy is for the weak rather than for the strong. . . . There has been a whining weakness in the complaints of the Americans against England, which has done more to lower them as a people in my judgment than any other part of their conduct during the present crisis. When we were at war with Russia, the feeling of the States was strongly against us. All their wishes were with our enemies. [Mr Trollope might have asked if the dismissal of our ambassador and the three consuls for very small matter was not a tolerably active demonstration in favour of Russia.] When the

Indian mutiny was at its worst, the feeling of France was equally adverse to us. . . . But I do not think that, on either occasion, we bemoaned ourselves sadly on the want of sympathy shewn by our friends.' A very curious point is here touched upon, the susceptibility of America on matters which are the subject of so much *nonchalance* in England. There must be something essentially different in the sense of position felt in the two countries to produce results so different, where, to all appearance, circumstances are similar.

The utter dead-lock of antagonism which exists between the two sections of the States engages Mr Trollope's attention. He sees how determined the southern men are to be separate, how equally determined the northern men are to force the south back into the Union. But he scarcely realises the solecism which underlies the policy of the north. The existence of the separate interest of slavery is what has led the south to desire separation; the north, which has fostered and profited by this interest, continues to give it virtual support, while struggling against its consequences. Those who, in their crusade for the preservation of the Union, propose to make an end of slavery at whatever cost, seem to us alone to have a true logical position. If any feel unable to make up their mind to a social revolution so tremendous, they ought, in consistency, to give up the attempt to restore the Union. The upbreak is but the natural punishment for their long paltering with this iniquity, and it were better for themselves to submit to it.

After making all required admissions unfavourable to the Americans, we think with Mr Trollope, that he would be an ungenerous Englishman who did not grieve over the troubles of this great country during the past twelvemonth. And we take it on us to assert, that there really is much regret for what is going on on the other side of the Atlantic. Whether the contest be wise or unwise on the side of the assailing party—whether it be hopeful or hopeless—we must all at least be distressed to think that a brother-people has had to pass through such a terrible affliction.

#### TÊTE À TÊTE WITH A LION.

In the year 18—, I set out from King William's Town, in British Caffraria, in company with a brother-officer, on a shooting expedition in quest of 'big game'—a name given at the Cape to elephants, elands, giraffes, hartebeests, and the larger species of antelopes. The excursion had been long planned and looked forward to; and at last the leave of absence 'on urgent private affairs' being granted, one fine spring morning we set out. The party consisted of C— and myself, who travelled on horseback; our English servant, who had charge of our two led horses; and two Hottentots, one of whom drove the wagon, and the other acted as conductor to the leading pair out of the fourteen oxen by which it was drawn. In the wagon were stowed away some cooking utensils of the roughest description, a bell-tent, some biscuit and flour for ourselves, and a small supply of oats for the horses, to be reserved for a *bonne bouche* after extra hard work. Our party was completed by six pointers, destined to assist in the capture of the smaller game. For the more solid parts of our daily meals we trusted to our guns, which kept us pretty well supplied; and at evening we always looked out for some spot well supplied with wood and water, where we could encamp for the night. Perhaps those evening halts were the pleasantest hours in the whole expedition, when the wagon was *out-spanned*, as the Cape phrase goes, the fire lighted, the game cooked and eaten, and our party drew round the fire of acacia-wood, to discuss the day's adventures over a cup of coffee and a pipe of cavendish. Sometimes, when our way lay through inhabited districts, our

impromptu soirée was attended by Bushmen, Hottentots, or friendly Caffres, who had accompanied us during the day, pointing out the likeliest places for game, or 'spooring' an eland or a hartebeest, over ground where no European eye could discover the slightest trace of the footprints of any living creature. They were most useful to us, and thought themselves amply recompensed by a share in our supper, and a place by our fire. They often proved most entertaining companions; and as C— spoke a little Caffre, and several of them spoke broken Dutch, we were able to make out their stories. Told as they were in those strange lonely places, by the wood-fire, which cast its weird shadows on the tawny face of the narrator, with the darkness all round us, and the strange noises breaking now and then on that vast silence and solitude, every tale of peril and adventure, of doing and daring, sounded terribly real; far more so than I can make them appear, when read in an English drawing-room so many thousand miles from the great wilds to which they belong.

Nevertheless, one of these stories made such an impression on me, that I am tempted to record it here, hoping to convey to others some faint degree of the breathless interest with which it was listened to by C— and myself, as it was narrated by one of these chance acquaintances, a wiry little Hottentot, who sat crouching over the fire, helping out his story by graceful gesticulation, which increased in energy as our absorbed attention flattered and pleased him.

Some years back, he told us, when he was a mere lad, he was in the service of a Dutch farmer in the Orange River Territory, a part of the country much infested by lions. It was his duty to drive his master's cattle to pasture every morning, and to bring them back to the farm at night, an employment which left a good many idle hours on his hands; and what boy, Hottentot or European, could, under such circumstances, have resisted an occasional ramble after the decoying honey-bird, or in search of ostrich eggs, or of some of the other numerous treasures so congenial to boy-nature, with which those regions abound. The cattle who, during their keeper's absence, were, of course, left to their own devices, generally proved quite capable of taking care of themselves; but on one occasion, when the Hottentot counted them over before driving them home, he perceived that a fine milch cow was missing, having doubtless availed herself of one of his truant absences to wander away from the rest. To search for her then was impossible, and he could only trust to the carelessness of the upper servants, who often neglected to count over the animals as they entered the kraal. In this hope he was not deceived: the loss passed unnoticed; and he resolved that it should be replaced, if possible, before he had again to risk the chance of discovery. Animated by the remembrance of former punishments, he set out alone, and without telling any one, in quest of the missing cow. He took with him a little dried meat, and a gourd containing water, and started at a pace which few of his countrymen could have equalled, fleet of foot as they are; the immediate dread of the 'samboch,' or whip of rhinoceros hide, quite putting the more remote dangers of his lonely journey out of his head. An hour or two of daylight still remained, and he had no difficulty in finding the 'spoor' of the lost animal, which the unerring intelligence of his race enabled him to distinguish from that of any other of the herd; and he followed it steadily, until the failing light made it undistinguishable from the footmarks of the wildebeest or gnu which crossed and recrossed it perpetually. It became necessary to halt, and give up the pursuit for that night, and he did so, though feeling thoroughly disheartened at the non-appearance of the cow, for whose safety he now felt the most serious uneasiness. His own also became a matter of anxiety, as night closed in, with the sudden darkness

of a tropical climate, and found him alone in that desolate country, far from all human help, and without any means of defence. He was not long in resolving what to do: he was determined, at all hazards, to find his lost charge, and would almost have preferred dying where he was to returning without her; besides which, it would have been madness to attempt to retrace his steps in the dark; so, after marking with his stick the spot on which he had left the 'spoor,' he looked about for some tree in which he could pass the night. He soon selected an acacia tree, which grew close by, and lost no time in climbing up and settling himself in a fork of the branches. He ate and drank sparingly, keeping a supply for the necessities of the morrow, and then completing his preparations by lashing himself to the main branch with his waist-belt, he drew his sheepskin blanket over his head, and composed himself to sleep. It was a still night; the silence only broken at intervals by the shrill notes of the screech-owl, the howl of the jackal, or the dreary laugh of the hyena—sounds to which our friend was too well accustomed to be kept awake by them.

How long he slept, he did not know, but he was awakened by a noise far different from any of those which had been mixing with his dreams—a noise which, once heard, could never be forgotten. Full, deep, and ominously near rose the dreadful sound, waking all the echoes for miles round, yet seeming to come from under his very feet—the terrible roar of a hungry lion.

Loud as it was, it failed to rouse the tired boy into full consciousness, though it made him start till he strained the belt which fastened him to the tree. Scared and bewildered, and still only half-awake, he fancied for a moment that he was actually falling into the jaws of a lion; then asked himself, was the terrible sound a dream, conjured up by his unwonted sleeping-place? A second roar thoroughly awakened him, and looking down, he saw in the moonlight a large black-maned lion seated at the foot of the tree, his eyes fixed on himself, and his body motionless, save for an occasional angry lash of his tail.

It was a dreadful moment; and the hours which followed were more dreadful still. All through that terrible night the savage beast sat watching his intended victim, and the terrified boy sat motionless also, afraid to stir, and almost to breathe, lest he should exasperate the lion. Once his cramped attitude became unbearable; come what might, he felt that he must stretch his stiffened limbs for a moment; and, as noiselessly as possible, he shifted his position: but he paid dearly for the momentary relief, for at his first cautious movement, the lion rose with a roar, and sprang at the tree, high enough to make the Hottentot's blood run cold, though not high enough to reach him. As he threw himself back, and coiled his limbs into a still more cramped position, he could hear the deadly claws scraping down the tree, with a sound which might well make his heart die within him. Again the disappointed animal took up his post at the foot of the tree; and now the moon began to wane, and again the sudden darkness came down on the face of the earth, and brought a little respite to the prisoner in the acacia tree. Under its friendly shelter, he could at least stretch his stiff legs, and in spite of the horror of his situation, he dozed from time to time, always waking with a start to the same bewildered wonder, as to whether all this was a reality or a dream. He was finally awakened by the raw cold air which precedes the dawn, and by the rushing by of a herd of antelopes, fleeing before the face of the common enemy. It may be imagined in what breathless suspense he watched for the day which would probably decide his fate, how eagerly he listened for some sound which might shew him whether or not the lion had abandoned his post. Once the cry of a springbok fawn, calling its mother, gave him hope: if the lion was still there, would not the creature's

instinct warn it to flee? All too soon, however, the light grew stronger, and, by degrees, showed him the grim form at the foot of the tree—first in outline only, then the gleaming white teeth became visible, the cruel eyes still glaring up at him, the black mane, the savage face. Through all that long night the lion had not stirred.

More wretched hours, and then the sun rose hot and scorching, darting its unsparing rays on the poor Hottentot, till his brain throbbed painfully. The lion, too, was evidently distressed; his tongue was lolling out of his mouth, his tail lashed his flanks uneasily. At last, towards noon, heat and thirst seemed to overcome him; and with a throbbing heart, the lad saw him moving slowly off. But he was mistaken if he supposed that the relentless animal would abandon his prey so easily; he stalked away a few paces, and then stopped, looking back with a low growl, a precaution which he repeated every minute or two, until he reached a pool of water, about two hundred yards from the tree, when he quenched his thirst, and hurried back to his post. All hope seemed gone now; and, almost in despair, the Hottentot saw day fade into evening, and evening into night.

It is useless to describe that second night; it was worse than the first, inasmuch as the terrible end seemed more certain, and mind and body were alike worn out with terror and utter weariness; but, on the other hand, he was somewhat reassured by the failure of the lion's repeated attempts to reach him with a spring; and when daylight returned, he ventured, after refreshing himself with a little food and water, to climb higher up to a post whence he could look in the direction of his master's farm. His last hope now was, that the farmer or some of his fellow-servants might discover his absence, and come in search of him; and long and wearily did he strain his eyes in that direction. The rage of the lion, when he saw his prisoner move, was fearful to witness: he tore up the ground, bit the tree, and furrowed it with his claws; but the Hottentot felt more secure in his position than he had done at first, and, besides, the very despair of his situation gave him courage. Through all the hot hours of that long day he remained on the look-out, often fancying that the indistinct forms of the hartebeests or gnus were those of his master, or some of his stalwart sons, with their long rifles, coming to the rescue.

But every hope ended in disappointment; and at last, late in the afternoon, he gave it up in utter despair, and prepared, with a sinking heart, to return to his former place, the only one in which he could fasten himself securely. As he began his cautious descent, his eye was caught by four dark objects in the distance coming towards him. His strained and dizzy eyes could hardly distinguish them, but surely, surely they were advancing; did his longing hope deceive him again, or was their line too even, their advance too regular, for that of a troop of wild animals? This time he was not mistaken; they came on slowly, but surely, and presently he could distinguish their forms, could see that they were four men on horseback. A slight rising-ground hid the lion from any one in that direction until within twenty yards of him. In all the tumult of his sudden relief, the Hottentot could perceive that; and taking off his sheep-skin, he waved it over his head, shouting with all his strength: 'A lion! a lion!' long before his voice could reach his deliverers. They, meanwhile, came steadily on; and now he could recognise them, the old farmer himself heading the party, two of his tall sons, rifle in hand—a welcome sight—and a Hottentot servant carrying a flint musket. The lion was raging furiously, maddened by the cries and gestures of his prisoner, who only thought of warning the advancing party of their danger, before they came on the animal unawares.

Suddenly the Hottentot, who had dismounted, and

was following the 'spoor' on foot, stopped and looked up. Either the boy's cries had reached his ear, or his quick eye had caught sight of his figure, for he pointed towards the tree, and then, in an instant, he was on his horse, and the whole party advanced at a brisk gallop. This was a moment of great suspense to the poor worn-out Hottentot, who could hardly find voice to send out his warning-cry: 'A lion! a lion!' He saw the advancing party gallop on, till, on gaining the rising-ground, they suddenly halted—they had seen the lion.

The magnificent beast became aware of their presence at the same moment, and, with leisurely pace, advanced to meet them; then stood still, moving his tail slowly from side to side, and uttering a suppressed growl. His rage was a splendid sight; but it may be believed that his adversaries did not lose much time in contemplating it. They had hastily dismounted, and tied their horses together, with their heads turned away from the lion, lest terror should render them unmanageable, and now they advanced on foot. The old Boer, who had shot many a lion in his day, headed the party; close behind followed his eldest son, and the remaining two brought up the rear; all moving firmly and cautiously, and each with a finger on his trigger. The lion moved a step or two to meet them, then suddenly crouched, with his head resting on his fore-paws, and remained so till, when his enemies had approached to within twenty paces of him, he began slowly and noiselessly to rise to his feet. As slowly, as noiselessly, did the old farmer drop on his knee, the others following his example: at the same moment all four raised their guns to their shoulders, and, as the lion was in the act of springing, the sharp crack of the three rifles and the dead report of the flint musket were heard at once. There was a terrible roar of pain and baffled rage; and the noble animal bounded forward in his agony, and fell at the feet of the farmer and his son. How the Hottentot got down from the tree, he never knew: he remembered nothing afterwards until he stood by the dying lion, and saw him receive his *coup de grâce* by a ball through the head. The farmer pronounced him the finest lion he had ever seen, and was so rejoiced at his death and at the safety of his servant, that our friend escaped the punishment, from dread of which he had nearly run on so horrible a fate. Of the truant cow, less fortunate than her keeper, only the larger bones were found, not far from the scene of this adventure.

#### HOW I BECAME A PHYSICIAN.

I HAVE been from my youth of a restless temper or temperament. As a lad, I wished not only to be head of my class, but head of the school. Whatever any boy could do, I wished to do, and to do better than any one else; this kept my powers always on the stretch. I sat up nights; I neglected exercise; I pored over my Greek till I was no longer an Englishman, but thought in the tough old Hellenic tenses. I worked out problems till I was a walking Euclid. I have spent the night over a problem with a patience and perseverance worthy of a sister of charity; and I have worked at a copy of Greek verses till the paper seemed to my excited optics to be one blaze of light.

This I did as a boy, what would I be likely to do as a man? I will tell you. I took to authorship and attics, and served my apprenticeship to a crust without beer, and a bed without blankets. Finally, I made a 'hit' with a political pamphlet, and got a place on the staff of a daily paper. I was 'a man of mark.' Lord Redtape was grateful for my timely advocacy of his favourite measure, and his balmy breath wafted me into the place I had long prayed for as easily as if I had been thistle-down. How I blessed my patron, and how efficiently I served him,

may be guessed from the fact that I was soon the centre of that powerful system, *The Daily Looker-on*.

The heart is not of more importance to the circulation of the blood, or the pineal gland to the brain and nervous system, than I became to 'our party.' Day and night I wrought at my desk, and 'devils' were my familiars. 'Copy, sir,' said an imp with an evil name, and I worked on as if I were a machine. My apprenticeship to poverty and failure had been very bitter, and had not prepared me properly to bear success. The mere fact of success was an exhilaration far beyond wine or strong drink, and my nervous system was as much taxed by it as by my incessant labour.

The first and greatest misery attendant on my success was sleeplessness; I say the greatest, because it was the parent of so many more. In the few hours I dedicated to repose, I courted sleep more sedulously than lover ever courted the coyest maiden. Just in proportion as my spirit longed for the renovation of rest, my excited brain refused for a moment to be quiet. When I lay down, there was a rushing, roaring sound in my ears; and when I rose, it was a ringing worse than Bow bells. At first, I thought that the roaring sound came from the street; it seemed like the tramp of life along the great thoroughfare on which I lived. But I soon observed that when all the world outside was hushed and asleep, the roar and tramp continued to thrash against my throbbing brain. Then there seemed a band of iron bound tightly around my head, and pressing intolerably against my forehead. Then I became dizzy when I raised my head from my pillow in the morning, which was not removed till I had smoked a cigar or drunk a cup of coffee. Next came dimness of sight and vertigo when I stooped and rose again quickly. The morning was my worst time. I was weary as death when it was time to rise, and it was not long before I never left my bed till I had taken some one of my accustomed stimulants. When the day was well begun, I could work till a late hour; indeed, I dreaded to stop. My hours in bed were most miserable, and I often wished that sleep had never been invented to mock me.

At last it occurred to me that I was going on badly, and must have advice. I acted on my resolution as hastily as I had made it; I just spared myself time to call on a very skilful physician on my way to a dinner given by my noble patron.

'My dear sir,' said I, 'just give me something to steady my nerves for this evening.'

'Your nerves!' said the doctor; 'you should leave nerves to the ladies.'

'I wish I could,' I answered, 'for they have leisure, and I have not. I am in the greatest possible haste now, but I am afraid my head will fail me to-night, and I really cannot spare it at the present crisis in public affairs, to say nothing of my own private need for it. The fact is, I have got a bad habit of being dizzy at times, and'—Then I hastily ran over the symptoms I have detailed.

The physician listened attentively, and not mechanically, remarking, when I ceased speaking: 'You sum up a case well; you do not waste time;' and then he was silent till I was impatient; and, with a hasty and uneasy movement, I said: 'Well!'

'You must stop all brain-work, and go into the country and rest,' said he.

I laughed in his face. 'I stop, and go into the country and rest!' I exclaimed. 'My dear sir, the thing is simply impossible. I am head, brain, heart, and centre of *The Daily Looker-on*. If the centre fails, what is to become of the circumference? I leave you to calculate the consequences if I should stop; for though I took high honours in mathematics, I cannot tell how much two and two make, and I am not sure that I could count my fingers correctly.'

'And yet you keep on taxing your brain, and stimulating to keep up to your work, with seven signs of apoplexy, which you have just detailed to me.'

'Seven signs of apoplexy?' said I with a start, for I was deeply shocked, as the doctor intended I should be. I put a piece of tobacco into my mouth. I always did this when I felt uneasy, which was some dozens of times in a day.

'Yes, seven signs of apoplexy,' said the doctor, 'and that tobacco is the eighth, and worst, for you screw yourself up to your work with that, and increase all your bad symptoms.'

'But the seven signs?' said I.

'A band of iron across your forehead, a rushing or roaring sound in your ears, dizziness, dimness of sight, or entire loss of vision when you stoop and rise again quickly, a blaze of light on your paper when you write in the night, sleeplessness, the obliteration of your mathematical power, which used to be great, and the necessity for stimulants, in order to work at all. I tell you, you must stop, and go into the country and rest.'

'Rest!' said I bitterly. 'My dear sir, I tell you I am to dine at Lord Redtape's to-night. I am expected to talk, and to talk brilliantly. At twelve to-night, I shall write a leader for to-morrow. When all this is done, I will think of what you have said; but I cannot spare time even to think of it till to-morrow;' and I gave him my hand with a guinea in it.

'To-morrow may be too late,' said the man of science sorrowfully.

'Do not frighten a fellow to death,' said I cheerfully; 'and do take time to tell me the cause of this rushing and roaring sound in my ears.'

The doctor smiled. 'If I take time to tell you, I suppose you will take time to listen,' said he.

'I would almost lose my dinner to learn the cause of my torment—rush, rush night and day. I like to rattle over the hardest pavement, because it somewhat drowns that horrid sound in my head. Just explain it, doctor, and consider me your debtor everlastingly.'

'You expect me to explain a complex scientific problem, when you do not know the alphabet of the science,' said the doctor; 'but I will try. Roaring in the ears is caused by the weakness, and consequent relaxation of the carotid artery. The size of this artery depends on the contractile power of the nerves that belong to its coats. When these nerves are weakened, the artery is relaxed, and becomes expanded, and the current of the blood surges against the bony structure of the mastoid process. This process shields the auditory nerve, which is spread out in its internal chambers, and the roaring sound is produced by this great current impinging on the mastoid process, from the relaxation of the coats of the artery. In its normal condition, the artery just clears the process, and we hear nothing. But when one's nerves are weakened, as yours are, great irregularities occur in the circulation. Rest, my dear sir, will restore the integrity of your nerves, and your eye will cease to exaggerate light by means of a diseased optic nerve, and your ear to be tormented with the rush and roar of your own blood, surging against an excited auditory nerve at every pulsation of your heart.'

'Very curious and interesting,' said I, thinking more about the doctor's explanation than my own disease. 'But I must be off to this tiresome dinner, my dear doctor;' and I rather unwillingly said 'Good-day.'

I remember very little of what occurred at the dinner, except that there seemed a bright light around the head of a lady who sat opposite to me, and dark spots with bright edges floated before my eyes. I was told long afterwards that I never talked



so well, or made so many brilliant points as on that evening, and that just before I left I blazed up in such a superb manner, that Lord Redtape said to Sir Frederick Bluebook: 'That man is the phenomenon of the age—the right man in the right place. He makes me hold my breath while I listen to him.'

I wrote a leader that night that was like the sound of a trumpet at a triumph. I went home to my lodgings at a late, or rather early hour. It was a warm night, and no fresh breeze fanned my hot face as I came out into the air. I felt as if my blood were molten lead, it was at once so hot and so heavy. I was glad to divest myself of dress garments, which are never comfortable except when one is under the eye of the public. I was glad to lie down, for I was too heavy to carry myself. With my windows broad open, and a single linen sheet over me, I fell asleep. I awoke with a sensation of cold, as if I were frozen to death. I tried to raise myself, thinking I would draw up the bed-clothes that lay across the foot of the bed. I found that my right side was immovable. I put my left hand over to my right hand and arm, and felt them. The hand and limb, and indeed the whole of my right side, were as though they were the members of another person, and not mine at all.

One side of my tongue would not move. The whole right half of my body was as useless to me as if made of marble. I had *Hemiplegia*—that is, half of me was palsied. A vegetative life went on, but there was no power in the voluntary muscles. My will had ceased to be a commander over one-half my material members.

The servant came up with coffee at ten o'clock, as I had bidden him, when I came in. He rapped, but as I could make no answer, he went away. What would I not have given to be able to call to John as I heard his receding footsteps! But the slightest sound was beyond my ability; I could only move my left hand and foot. I could still think, and there seemed no haleness in my thoughts, but there was a heaviness even in my anxiety, and I suppose I fell asleep. I awoke, or recovered my senses, I never knew which, with a feeling as if I had been stabbed, and saw a gentleman withdrawing a lancet from my arm.

'Ow black it is, and honly two drops!' said John, who was holding the bowl. Again I felt the sting of the lancet; but no blood followed its insertion. What is to be done next? thought I. I do not remember thinking again till I heard a rich, deep voice say: 'He will revive; he has young blood in him.'

'What would you advise, Sir Joseph,' said a voice which I knew belonged to the person who had stabbed me. 'It is impossible to bleed him.'

'And not necessary,' said Sir Joseph. 'He should be taken to Malvern Water-cure.'

'What!' exclaimed the stabber in astonishment, if not in anger, 'do you advocate quackery?'

'No, sir,' said the man of mark emphatically; 'but the indications in his case can be better fulfilled there than anywhere else. Obstructions must be removed by perspiration, and the douche will be the best tonic in his case.'

The great man, who was not frightened at words, and who could see Philosophy in so-called empiricism, was obeyed. I was carried to Malvern. For thirty-six hours, I was alternately sweated and bathed. I was first wrapped in blankets, till profuse perspiration was induced, and then in this vapour-bath, from my own pores, I was sponged off with cold water, rubbed dry, and then again enveloped in blankets for another sweating. For thirty-six hours, this treatment was pursued; and at the end of this time, I could slightly move my right hand.

'Bravo!' said the doctor; 'you shall rest.'

And I did rest, and sleep. For hours my weary body and soul rested in a dreamless Elysium, of which I was only occasionally conscious for a moment, when a wet napkin was laid on my forehead.

During three months I was sweated, and douched, and ate black bread, and not over-tender beef, and never once saw tea, coffee, or tobacco. At the end of the three months, I left Malvern with the use of all of myself, except that I could not pick up a pin with my right thumb and finger, though I could grasp a friend's hand heartily. I suspect I could not have written a leader in my old, elegant, plain chirography. But I had no chance of attempting this, for during my absence, some one had stepped into my place on the tread-mill of daily journalism, and I was no more missed, or wanted, than the fifth wheel of a coach. It is said that no man is ever missed in the great economy of Providence; and certainly that was my case in the small circle of what I had considered great affairs. The individual who had succeeded me was 'the right man in the right place,' and for aught I know, Lord Redtape held his breath when he listened to him.

I was left at liberty to confirm my health by good habits, and to gain a new position by ability or good-fortune. I had begun the study of human physiology with my own brain and nervous system; I continued it with a zeal born of suffering, and a humane and compassionate sympathy, founded on a knowledge of what my fellow-creatures were suffering all around me from ignorance of physical laws. Providence had spared my life, and I resolved to dedicate it to the service of that most unfortunate class, the literary and the learned, who know nothing of the laws of life and health, who ignorantly destroy both, and then look to the physician to create them again by some miraculous power, which does not exist in science. The patient must co-operate with his physician, and both must co-operate with the laws of God in the human constitution, or it is as vain to expect health to succeed disease, as it was to pursue the chimera of the philosopher's stone or the elixir vitæ.

## THE MONTH:

### SCIENCE AND ARTS.

WITH 'the leafy month of June,' our scientific societies bring their session to a close, and make preparation for holidays. There has been, on this occasion, an enlivenment from the presence of numerous foreigners, many of whom must go home impressed with a favourable notion of English hospitality. The things talked about are multifarious: the Japanese ambassadors—the flood in the fen-country—the new metal *thallium*, discovered by spectrum analysis—the presence of rubidium (also a new metal) in numerous plants and sea-weeds, shewing it to be one of the substances widely diffused throughout nature in minute quantities—Siemens' induction-coil—the three-hundred pounder Armstrong gun and its trials at Shoeburyness—and colonial gold and English iron, the latter more particularly in relation to iron ships. Iron or wood, continues to be a vexed question. There are some sagacious men who think that the haste to substitute metal for timber is a mistake; that iron ships will be found too unwieldy for naval evolutions, and that the day is not yet come when oak or teak should be regarded as useless either in attack or defence.

In noticing some time ago Mr R. W. Sievier's new process for smelting iron, we mentioned that an attempt would be made to bring it into use. Since then, furnaces have been built to suit the new conditions at Blaenarvon, one of the large ironworks in South Wales; but when the time came to set them going, the men struck, alleging that the process would take the bread out of their mouths. As we before stated, Mr Sievier's method is the reverse of that now generally used: instead of driving a blast into the furnace, he exhausts the air therein contained

by means of a fan of peculiar construction, which has the further advantage of occasioning an entire consumption of smoke. No dense clouds rush forth to waste fuel, and darken the sky, as is now the case, especially in the Black Country; but as the oxygen rushes in to supply the vacuum, its effect on the molten metal is such that the latter falls drop by drop, a stiff pasty fluid which requires no puddling. Iron is melted and puddled in one and the same furnace by means of the exhaust, for when a sufficient quantity of the pasty mass has accumulated at the bottom of the furnace, it can be dragged out, and put under the hammer, and so converted at once into wrought iron, without the intermediate process of puddling. Hence the strike of the puddlers and their companions, who forget that the more an article is cheapened the more is labour promoted. We can, however, but believe that so important an invention will ere long be freely accepted, especially as the quality of the iron may be rendered hard or soft at pleasure. Specimens of the metal have been exhibited at the gatherings of certain practical men in London.

At Sheffield, something has been done by which the manufacture of lead can be carried on with greater economy than heretofore. It consists in the use of sulphuric acid mixed with lime, instead of the usual preparation. In the same works, a way has been discovered of converting bad lead into good lead, at a very moderate cost. Bad lead has long been a drug in the market; henceforth, it may be transferred to the stock of good lead, which is never too great.

The Russian government are about to establish an observatory at Cronstadt, with the special purpose of insuring accuracy in ships' compasses, thus co-operating in a work which has been successfully carried out by our own Admiralty. The object is to construct a compass that shall point truly under all circumstances, whether in a wooden ship or an iron ship. In an iron ship, the compass is always under the influence of the magnetism of the vessel itself; and it is to neutralise this influence that science is brought into play. The *Philosophical Transactions* of the Royal Society bear testimony to the patient research, through many years, of some of the foremost physicists in England into this delicate and highly important question, especially the papers by the Astronomer-royal and Messrs Smith and Evans. The former has recently extended the subject in a paper read before the Royal Society on the difference between hot-rolled and cold-rolled malleable iron, as regards their capacity for receiving and retaining magnetism. The Russian government have an especial interest in the subject, because of the extremes of temperature that prevail in the Baltic, and by their influence on the permanent magnetism of an iron ship, involve considerable risk. In other words, the direction of the compass in a vessel navigating the Baltic in the heat of summer will not be the same as in the cold months; and it is this deviation, with the consequent liability to error, which the new observatory is intended to counteract and rectify. British science has done much towards a settlement of the question; but there remains enough yet to be done to repay research for many years to come.

The last published part of *Philosophical Transactions* contains Mr Mallet's account of his experiments, made at Holyhead, to determine the law of propagation of earthquake waves. Charges of gunpowder were sunk in the earth and fired at a given moment, and the difference in time between the explosion and the perception of it at a distance gives the rate at which the shock is propagated through the earth or rock. The rate of course varies with the nature of the stratum in which the experiment is made. The whole subject is one of much interest to geologists, with respect to the behaviour of the earth's crust under unusual circumstances.

Professor William Thomson has recently published another of his far-reaching speculations, by which he shews that the rigidity of the earth must be greater than that of glass or steel; because, if not, it would yield so greatly to the movement of the ocean, that differences in the height of tides would be hardly perceptible. He considers that facts are opposed to the notion that the earth is a thin crust enclosing a kernel of liquid fire; but that the interior is a solid mass under enormous pressure. He believes that if a series of simultaneous tide-observations were made at Iceland and Teneriffe, some insight might be obtained as to the actual rigidity of the earth, seeing that those two islands are so situated as to shew whether the fortnightly tides exert any extraordinary influence or not.

Another paper in the publication above mentioned, and written by the Earl of Rosse, is one of that class of subjects which will be referred to by astronomers for centuries to come. His lordship, with characteristic liberality, makes no secret of his methods, and describes fully the machinery and process by which his great reflecting telescope was constructed; and as the description is completed by numerous engravings, any astronomer henceforth will be able to make such a telescope as will sound the remotest depths of space. Should any enterprising manufacturer of sufficient scientific knowledge wish to set up a manufactory of big telescopes, he will find ample information concerning essential details. Besides all this, the paper contains further observations of nebulae, the results of which confirm former observations as to their general spiral form, and lead to a conviction that movement and changes of form do take place in those far-distant and wonderful objects.

The new metal thallium is the discovery of Mr William Crookes: he derives it in small quantities from a peculiar kind of sulphur, and finds it to be one of the simplest of the metals, as it shews one line only, of a green colour, in the spectrum. Chemically, it has some analogy with mercury, and it may possibly turn out to be one of the substances common to the earth and the sun.

Siemens' induction-coil is a remarkable invention, for with six and a half miles of wire it gives off a spark three feet in length; while Ruhmkorff's, of the latest construction, containing fifty miles of wire, gives only a two-foot spark. At this rate, electricians will some day be able to produce artificial lightning. These large coils are, however, very dangerous, for when highly charged, sparks fly from them to the injury of any one who stands within the distance of three feet. On the other hand, this invention seems to open the way for small coils, things that can be carried in the pocket, which will send forth a considerable spark.

The flood in the fens, though very disastrous, will probably have the effect of drawing such attention to hydraulic engineering as will suffice to prevent such a calamity in future. It is somewhat remarkable, that while the engineers have been pushing back the sea, and converting the muddy shores of the Wash into dry land below the town of Lynn, the tide should have overflowed more than ten thousand acres of its ancient dominion a few miles above the town. That part of England so much resembles Holland, that the same ceaseless vigilance should be exercised in it with which the Dutch maintain their banks. We have been learning lessons from them in the recent reclamations at the mouth of the Ouse, and shall now have to learn another. As an example of the importance which attaches to the subject on the other side of the North Sea, we notice in the list of prize questions proposed by the Batavian Society of Experimental Philosophy at Rotterdam, eight relating to drainage-slucies, riverbeds, ports on flat exposed coasts, and maintenance of pastures which lie below the sea-level. The essay on

streams is to contain 'a judicious historical consideration of the rivers of Holland, from the inroad of the Zuyder Zee to the present day.' Another of the questions proposed is the temperature of the sea at great depths, which is of much importance in the study of the physical constitution of the globe; and a suggestion is put forth that whenever a ship is in the required latitude and under favourable circumstances, a sounding should be made. We think that this question has been answered, in part at least, by Professor Forchhammer of Copenhagen, who for twelve years has been occupied by a research into the constitution of sea-water at different depths and in different latitudes. He, being in London, as one of the jurors of the International Exhibition, read a short but interesting paper on the subject before the Royal Society, in which he shewed that, taking the same latitudes, the ocean is less salt in the southern hemisphere than in the northern, and that (contrary to ordinary expectation) there is less salt at a great depth, in the proportion of thirty-five to thirty-six, than at the surface. He mentioned, too, that of the thirty-two constituents which have been found in sea-water, he had himself detected twenty-eight; and while enumerating these, he expressed his opinion that ultimately all the chemical constituents hitherto produced out of the solid earth will be discovered in the water of the ocean.

In 1860, M. Lagout communicated a paper to the Academy of Sciences at Paris, shewing that in the fine arts (music and the arts connected with design), the simplest combinations produce the most agreeable sensations, and demonstrated his proposition from the works of some of the greatest masters, such as Vitruvius, Michael Angelo, and Leonardo di Vinci. Since then, he has further developed the subject, and reduced the main argument to an equation, so that it will be possible to work out beforehand, by mathematics, a question as to form in design or expression in music. He endeavours to define the limits of the nicest perception of sight and hearing, and quotes the interesting experiments made by M. Sauveur, from which it appears that the sensibility of the ear to sounds is about ten thousand times greater than that of the eye in the discerning of colours; from which we are to infer that an imperfection in a drawing, painting, or statue is less readily perceived by the eye than is an imperfect sound in music by the ear. M. Lagout's theory admits of application to the arts that form part of our daily existence, as well as to ancient art, and he may be said to have found a touchstone, by the aid of which any one may appreciate the degree of truthfulness in the proportions of a monument or object of industrial art. This, it is said, will deliver designers from that mechanical practice of feeling their way by inches, which now hampers them while on their way from their rough sketch to the working-drawing.

Something further about proportion may be seen in a thin quarto, *On the Law of Increase and the Structure of Man*, by Dr Lihartzik of Vienna, one of the numerous foreigners whom the International Exhibition has drawn to this country. Having studied the subject for twenty years, and made more than twelve thousand measurements, he has satisfied himself of the existence of the law and its operation throughout nature. With respect to the human body, the period of increase comprises twenty-four epochs, which represent twenty-five years. 'The first solar month after birth constitutes the first epoch; each following epoch being a month longer than the epoch immediately preceding it, so that the second epoch is of two months; the third, of three; the twelfth, of twelve; and the last, or twenty-fourth, of twenty-four solar months.' The sum-total of these epochs is three hundred months, or twenty-five years, the date at which the growth of the body ceases. As Dr Lihartzik shews, much depends on true proportions.

An ill-proportioned body would be more liable to disease than a well-proportioned one; and he argues that the existence of certain disproportions would denote a predisposition to scrofula, consumption, or rickets. Give him the proportions of a newly-born infant, and he will predicate what the stature will be at the end of twenty-five years. The law has a physiological and a psychical application. 'The length of the neck,' we quote the doctor's book, '(= the length of the larynx) in the new-born male child amounts to the breadth of a rib (= one centimetre), increases to five centimetres with the twenty-first month, to seven centimetres with the fourteenth year, and to nine centimetres in the full-grown man. The limits of the human voice follow the same proportion. The new-born child cannot emit more than one tone, and this is an inarticulate cry. After completion of the twenty-first month, the child, besides the original inarticulate cry, is able to emit four tones; that is, to modulate its voice in five different ways. With the fourteenth year, he commands six notes of the gamut; and at last, the full-grown man masters the whole gamut, making, with the native cry, a total of nine modulations. . . . The female sternum being shorter by one breadth of rib than the same bone in man, and the female trachea consequently being one centimetre less in length than in the male sex, it may be easily explained why the female voice is more adapted for the emission of higher notes.'

Dr Lihartzik has discovered the operation of a similar law in the growth of quadrupeds and of fruits: the first epoch of growth of the apricot is six hours; and the sum of all its epochs eighteen hundred hours, or seventy-five days. Those who are interested in the subject may see his statuettes and diagrams in the Exhibition, by which the theory is amply illustrated.

#### PAPER MATERIALS.

On the 22d of March 1855, the Earl of Derby exhibited in the House of Lords specimens of three or four substances proposed to be used as substitutes for linen rags in paper-making. One was the fibre of the *Musa paradisiaca*; a second, the fibre of the *Hibiscus esculentus*; a third, the seed-pod of the *Cryptostegia grandiflora*. Two specimens of paper were also exhibited, made from plantain fibre: the one rough and unbleached, to shew its strength and tenacity; the other bleached and finished, to shew its whiteness and smoothness. The earl's object was to facilitate the formation of a West Indian Company, for applying various fibres to many of the purposes for which hemp, flax, and linen rags are ordinarily used. He spoke of one particular estate in Demerara where a hundred and fifty thousand plantain-trees are cut down annually, simply for the sake of clearance, without any attempt to bring to use the peculiar fibres of that plant. In the course of his subsequent observations, the earl said: 'If the government could do anything to promote a manufacture which employs an inexhaustible quantity of raw material to meet a demand that is unlimited—for hemp, for textile fabrics of various kinds, and for paper cheaper than can be formed of rags; and if these articles can be produced in colonies that have suffered much distress—they will do much to introduce new prosperity into those colonies by means of a new description of industry.'

This is an old subject. Inventors have for many generations tried their skill in making paper from the fibres of plants easily and cheaply obtained. About 1770, one Jacob Christian Schäffer, a pastor at Ratisbon, produced a little volume of sixty leaves, all made of different substances. Among them were the bark of the willow, the beech, the aspen, the hawthorn, the linden, and the mulberry; the down of the catkins of the black poplar; the silky down of the asclepias; the tendrils of the vine; the stalks of the nettle, the mugwort, and the dyer's weed; wood-shavings, saw-dust, potatoes, and fir-cones;

and numerous varieties of leaves, stalks, reeds, straw, moss, and lichen. On every leaf a portion of description was printed. A copy of this curious book will be found in the British Museum. Later in the century, a French marquis printed a small volume of his own poems on paper derived from some of those unusual sources; and, as was sarcastically observed, 'the paper was worthy of the poetry.' Straw is converted into paper at the present day, and much of such is sold in London either as writing-paper or for cheap newspapers. Deal-shavings are similarly used, but not, to any great extent. M. Vivien has a process whereby the leaves of ordinary trees are compressed into cakes, steeped in lime-water or some other alkaline solution, washed clean, ground to pulp, and made into paper. Attempts have also been made to convert the fibrous parts of Irish peat into paper; and Dr Forbes Royle has prepared a long list of plants growing wild in the East Indies, and yielding fibres more or less fit for paper-making. The government, urged by the paper-makers, sent, in 1855, to British consuls abroad, requesting them to collect information respecting such foreign plants as might be suitable for this purpose, and a good deal of valuable information was from time to time transmitted.

Every one agrees that linen rags produce paper better in quality than any of the materials proposed as substitutes for them. Some of those substitutes are too weak, others too brittle, others too spongy, or too rough, or too much tinted; nevertheless, it is quite right that ingenuity should continue to be applied in this direction. The Vienna Commissioners for the London International Exhibition of 1862 resolved on an excellent mode of testing this matter—they printed three official editions of the Austrian Catalogue—one in German, on paper made of maize-fibres and linen rags (nearly white); one in French, on paper prepared of maize-fibres and cotton rags (rather bluish); and one in English, on paper made of maize-fibres, linen rags, and cotton rags (slightly drab or yellow). The paper in the English version of this Catalogue is certainly of very good quality, strong in substance, clear in appearance, and taking the ink very well.

#### HONEYMOON COTTAGE.

The apples ripen where the sun  
Their rosy red hath shone upon;  
The kail-leaf bows in wrinkled palm  
The crystal drops so still and calm;  
The sweet pease, sweeter than before,  
Hold gaily up their tricolor.  
No sunshine e'er so bright as this  
The opening white rose ran to kiss;  
No wood-doves ever from the tree  
Cooed softer welcome unto me.

A cottage that the roses love,  
Is where I nestle and my dove;  
A brook runs dimpling past our door—  
It never seemed so bright before;

The elms, green leafy mountains near,  
Whispering low music in my ear;  
Our village round the church-tower creeps,  
Whose shadow guards it while man sleeps.

And then my garden is to me  
A little green felicity.  
No apricot on sunnier wall  
With reader haste for me did fall;  
No vine, such nectar free from sins,  
Bore in its tight plump purple skins.  
The swallows circle o'er my roof,  
Nor does the black-bird keep aloof.

Fly-catchers on the flower-stalks watch  
Keen hawks, their revenue to catch;  
The wagtail flirts upon the lawn,  
Till dewfall from the earliest dawn;  
The red rose kindles in the sun—  
Of many sweet, the loveliest one:  
Such joy and happiness unfeigned  
Reign in our *Paradise Regained*.

Rach sunshine-moment twinkles by  
A white-winged, wandering butterfly,  
Through sky half golden and half blue,  
With white-rose cloudlets rippling through.  
A world of flowers is at our feet;  
The soft wind's glad, warm, and sweet;  
The glancing trout leap in the sun,  
Darting and flashing, one by one.

Sun gilds our laurels' dancing leaves;  
The weaving swallows seek the eaves;  
The red flowers smoulder slow away,  
Breathing out incense to the day;  
The scanty brook now scarce can speak,  
So pent up, slender, and so weak;  
Now fields slope brazen with the corn,  
Soon in gay triumph to be borne.

Now day-flowers close their green-white bells,  
And witch-like Darkness clouds the fells;  
The sharp edge of the harvest-moon  
Will cut that gray cloud keenly soon.  
The bats are busy twinkling out;  
I hear the homeward shepherd shout.  
Oh, joy and happiness unfeigned  
Reign in our *Paradise Regained*!

W. T.

The Editors of *Chambers's Journal* have to request that all communications be addressed to 47 Paternoster Row, London, and that they further be accompanied by postage-stamps, as the return of rejected Contributions cannot otherwise be guaranteed.

The present number of the Journal completes the Seventeenth Volume; a title-page and index prepared for it may be had of the publishers and their agents.

END OF SEVENTEENTH VOLUME.



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